REMARKS

This application has been carefully reviewed in light of the Office Action dated February 25, 2005. Claims 2 to 5 and 7 to 10 are in the application, of which Claims 2, 3, 5, 7, 8 and 10 are independent. Reconsideration and further examination are respectfully requested.

Claims 2 to 4 and 7 to 9 were rejected under 35 U.S.C. § 103(a) over U.S. Patent 4,484,349 (McCubbrey) in view of U.S. Patent 4,665,440 (Tromborg), further in view of U.S. Patent 6,212,303 (Doran), and further in view of U.S. Patent 5,153,421 (Tandon). In addition, Claims 5 and 10 were rejected under 103(a) over McCubbrey in view of Tromborg and Tandon. The rejections are respectfully traversed.

The invention concerns an imaging sensor which includes a sensor array segmented into disjoint segments, a respective plurality of output pipelines with each one of the output pipelines corresponding to one of the segments of the sensor array, and duplicating means for duplicating image data for an overlap region at each boundary between segments. Thus, according to one aspect of the invention, both the output pipelines and the duplicating means are provided in the imaging sensor.

According to a further aspect of the invention, in the overlap region at each boundary between segments, multiple outputs are obtained for each pixel in the overlap region such that each of the multiple outputs is provided to individual ones of the output pipelines that border on the overlap region.

The applied art has been reviewed, but is not seen to disclose or to suggest the technical features of the present invention, and in particular is not seen to disclose or suggest either of the foregoing aspects of the invention. As Applicant sees it, none of the applied art is seen to disclose or to suggest at least the feature that both output pipelines and duplicating means are provided in the imaging sensor.

In entering the rejection, the Office Action conceded that none of McCubbrey, Tromborg or Doran disclosed anything concerning placement of an output pipeline and duplicating means in the imaging sensor. Reliance was placed on Tandon for such a feature, but Applicant respectfully submits that such reliance is misplaced. Lines 10 to 27 of Tandon's column 1, which was cited in the Office Action, read as follows:

> "Current day image sensor arrays, such as the type used in document scanners for scanning image bearing documents and converting the images viewed to video signals, have supporting electronic circuitries such as analog buffers, DC restore circuits, A/D conversion circuits, clock circuits, etc. external to the sensor chip. This tends to increase the cost and complexity of the scanner, and thus it would be an advantage if all these ancillary and supporting circuits could be co-located with the scanning array on the sample chip. The advantage achieved by placing the supporting circuits on the same chip as the sensor array becomes even more significant and important where the sensor array is intended to be joined with other like sensor arrays to form a larger or full width array since the number of individual parts that must be handled increases dramatically as the number of sensor arrays that are joined together increases."

The Office Action relies on this portion of Tandon as supposedly providing motivation to place supporting circuitry on the same chip as an image sensor. It is true that Tandon states that there would be an advantage if ancillary and supporting circuits could be co-located on the sample chip; however, Tandon very clearly states that there would be an

advantage only "if" they "could" be co-located. Tandon thus gives no indication of whether co-location would or would not be successful, and indeed provides no guidance whatsoever on the means or manner by which co-location might be achieved.

It is therefore respectfully submitted that reliance on Tandon amounts to nothing more than a statement that it would have been "obvious to try" various co-locations, without any significant or reasonable expectation that co-location might be successful. See MPEP § 2143.02. At the very least, the combination proposed in the Office Action could not enable the invention.

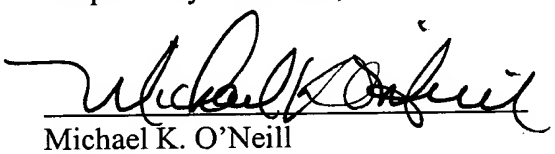
Moreover, even if Tandon is read as a generalized teaching of co-location of "ancillary and supporting circuits" on a sample chip, there is nothing in Tandon which designates which of circuits should be arranged on the same chip, and which are not necessarily so arranged. It is noted, for example, that embodiments of the invention involve numerous circuitry including pipelines, converters, processors, and the like. The claims specify which of these circuitries should be provided in the imaging sensor, and very clearly specify which are not necessarily provided in the imaging sensor. For its part, Tandon offers no such guidance. Thus, reliance on Tandon amounts to nothing more than an improper "pick and choose" rationale since nothing in Tandon specifies which ancillary circuitry should be provided on the same sample chip and which need not. This is somewhat similar to the situation confronting the CCPA in *In Re Antonie*, 195 USPQ 6 (CCPA 1997); see MPEP § 2144.05. In *Antonie*, the court stated that a particular parameter must first be recognized as a result-effective variable before the determination of an optimal value for such a variable might be characterized as routine. In *Antonie*, the

court decided that the variable had not been recognized as result-effective, and therefore held that the claim would not have been obvious. In the present situation, there is no teaching in Tandon, much less the art of record, that specifies which of the various circuitry might be provided in an imaging sensor and which are not necessarily so provided. Accordingly, it cannot be said that the invention would have been obvious.

It is therefore respectfully submitted that even when combined in the hypothetical arrangement described in the Office Action, no combination of the cited art would have rendered the present invention obvious. Allowance of the claims herein is therefore respectfully requested.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Michael K. O'Neill
Attorney for Applicant
Registration No. 32,622

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

CA_MAIN 101014v1